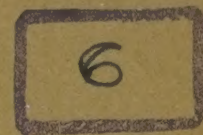


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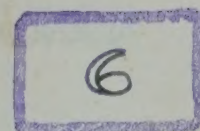
# The Market for Canned Grapefruit Segments











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# The Market for Canned Grapefruit Segments

J. D. Winter.

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A NOTE ON CAN SIZES AND THEIR COMMON DESCRIPTIONS

Many of the cans used most commonly in the processing industry are usually referred to by a designation or description rather than by their capacity. This practice has been followed in this report both because it is the usual practice and also because suppliers will have to familiarise themselves with the terms. The following is a list of the cans whose designations or descriptions are used in the report, together with the total capacities of each;

Designation or Description	Total Capacity (in ozs)
A1	11.1
1 Tall	16.1
No. 303	16.88
A2	20.2
A10	109.0

Source: *Practical Canning* by Arthur Lock 3rd Edition 1969

Food Trade Press Ltd London

Except for No. 303 "*The Almanac*"







# SUMMARY AND CONCLUSIONS

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1. International trade in canned grapefruit segments is relatively small, and the UK normally accounts for about 90% of it.
2. The leading producer is the USA, but the leading exporters in recent years in order of their shares of the market are Israel, Jamaica, South Africa, British Honduras, Trinidad, Cyprus, USA and Swaziland.
3. The USA now only exports about 2% of her domestic production and she was a net importer in both 1968 and 1969. She in fact exported less than Swaziland in 1969.
4. The exports of grapefruit from three Commonwealth Caribbean countries — British Honduras, Jamaica and Trinidad — are now either wholly (British Honduras) or principally (Jamaica and Trinidad) in the form of processed products — juice and segments. However the requirements of the fresh fruit trade, both domestic and/or export, may nevertheless affect supplies to canners at certain times of the year.
5. The grapefruit industries of Cyprus, Israel and South Africa are so organised that the needs of the fresh fruit trade (export first and domestic second) take priority over canners' needs. Consequently canners, particularly canners of grapefruit segments who require higher quality fruit than juicers, may at times suffer from supply shortages.
6. The UK's imports of canned grapefruit segments have increased from an annual average of 13,646 tons in 1957/59 to one of 28,987 tons in 1966/68 — an average increase of about 9% per year over that period. Moreover the annual rate of increase has tended to accelerate somewhat in recent years.
7. Imports into the UK jumped dramatically in 1969 to 37,230 tons, registering a 28% increase over the average of the previous three years. However, there appears to have been a cycle in the past whereby imports have increased significantly every three years or so and 1969 is the year when this pattern should have repeated itself. It is noteworthy that the level of imports needs merely to be maintained in 1970 and 1971 for the average annual growth rate of 9% to be achieved.
8. After the UK, Canada has been the second largest importer until superseded by the USA in 1968; the usual order of next most important importers is the Irish Republic, the Netherlands and the German Federal Republic. Assessed imports into these countries in 1968 were: USA 1,626 tons, Canada 1,490 tons, Irish Republic 254 tons (usually around 500 tons), the Netherlands 330 tons and the German Federal Republic 190 tons. Thus they are all, even the largest, small markets compared with the UK.
9. Importers generally buy firm, usually on cif terms, and thereafter the usual distribution chain is to wholesale grocer and thence to retailer. Large multiples and supermarkets may buy direct from importers, but direct trade between producing countries and retailers, even the multiples, has not been encountered in the trade in canned grapefruit segments.



10. There are as yet no internationally agreed standards for canned grapefruit segments although the FAO/WHO Codex Alimentarius Commission is drafting some. However some producing countries have standards with which their canners have to comply and these standards (or extracts from them) are given in Appendix 1. In fact the trade appears to be well satisfied with the general quality although it is states that tropically grown fruit yields a better product than that grown in the sub-tropics.

11. Attention is drawn to regulations or recommendations existing in the UK regarding permitted Colouring Matter, permitted Preservatives, Injurious Metals and Labelling of Food Regulations. The last of these come fully into effect in 1973 but exporters are advised to ensure that their labels comply with the regulations before that date.

12. Prices declined from the late 1950's until 1965 but have recovered somewhat since, though they have still to return to the 1950's level. The average value of imports from all sources in 1969 was £137 per ton. There was a significant rise of 6% over the level of the previous three years and this was widely anticipated in the trade as it was felt that canners would no longer be able to absorb increased costs.

13. There is a move towards using smaller sized cans for the retail market in the UK as it is no longer possible to sell the traditional A2 can at the popular retail price ticket of 2s or less. There is also a recent move by some caterers to order "one-portion" packs (eg 8 oz cans) rather than "multi-portion" packs (eg 46 oz and A10 cans) despite the higher unit costs of the former.

14. Canned grapefruit segments enter the UK duty free, although the product is liable to a sugar surcharge. This charge, which is a specific duty, varies but in July 1970 added only 1% to the landed cost. Elsewhere ad valorem import duties range from 18.4% (EEC) to 35 per cent (eg Japan and USA) and where specific duties are charged they fall, with one exception, within this range when converted to a percentage basis. The EEC's tariff is applied to produce of third countries only, Commonwealth produce is admitted into Canada duty free, the Irish Republic has variable rates depending on the source and Switzerland charges a lower rate on produce from members of GATT. A sugar levy raises the effective barrier in the EEC to around 24% and there are of course various internal taxes in the EEC countries which have the effect of increasing retail prices. However the latter taxes or similar ones are also levied on domestically produced products.

15. Future prospects in the UK and elsewhere are reviewed separately. In the UK, note has been taken of the rate of growth in imports achieved over the review period — about 9% per year on average, of an apparent cycle of substantial increases in imports every three years, of the opinion of the trade and of the performance of other established popular canned fruits (peaches, pears, pineapples) in assessing future prospects. The rate of growth in imports recorded for canned grapefruit segments is considerably higher than a "natural" growth rate (related to increases in earnings and population) of 2 to 3% which is the rate now recorded for the three major fruits mentioned. It is doubtful whether canned grapefruit segments will achieve the total volume of sales of the three "popular" fruits as grapefruit is essentially a "one meal a day" (breakfast) commodity. It is thought likely that present growth rates may be sustained until the late 1970's, when imports will have risen to around the 50,000 ton mark, and then level out. Thus prospects in the UK are good for almost a further decade. Elsewhere trade is expected to develop only slowly, with the possible exception of the USA where, however, further years' trading data are required to discover whether or not the much increased trade in 1968 and 1969 is a permanent feature.



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# THE MARKET FOR CANNED GRAPEFRUIT SEGMENTS

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## INTRODUCTION

Fruit exporting countries are increasingly seeking market outlets for processed fruit products. Reasons for this are (a) processing provides an opportunity to use profitably fruit which is either surplus to fresh fruit market demands or not up to the required standards for these markets, (b) the export of processed products may provide export opportunities which are not available for fresh fruit owing to inadequate or irregular shipping service, (c) processing creates employment opportunities, (d) the export of processed fruit can provide a further source of revenue and foreign exchange and (e) consumers in the main importing countries are tending to eat more of their fruit in processed forms.

International trade in canned grapefruit segments is, however, relatively small. In fact the UK is the only country with a significant import demand. The USA is the largest single consuming country, but this market has been almost exclusively supplied by domestic production until very recently.

Fresh grapefruit and grapefruit segments are more commonly consumed at breakfast than at other meals or times in the day, although they may also be used as "starters" to a main meal or even as desserts. This usual consumption pattern is obviously one reason why inhabitants of North America and the British Isles eat more fresh grapefruit and grapefruit segments than their counterparts in Continental Europe for example, as the former traditionally eat a more substantial breakfast than the latter. Other influences on the consumption of grapefruit segments such as tariff barriers will be discussed in the appropriate sections of the report.

While grapefruit juices are not the subject of this report it might be noted that their manufacture accounts for a far larger proportion of the fresh fruit used for processing than does the manufacture of grapefruit segments; furthermore, the demand for juices is more widespread and evenly distributed. Juices of appropriate concentrations may be used in many ways, eg as "starters" to all meals, as drinks at other times of the day, as concentrates for dilution, as bases for carbonated drinks etc. It is hardly surprising therefore that more fruit should be processed as juices than as segments. It might also be noted that much of the fruit used for juicing is in any event unsuitable for the fresh fruit trade — being under or over-sized, blemished, irregularly shaped, damaged etc — while the fruit used for segment production has to be much nearer in quality to that required for the fresh market particularly as regards size, conformation and internal quality. External blemishes are, of course, of no consequence but it is a fact that the needs of the fresh market and of segment processors can and do overlap and the quantity available for the latter may be restricted in the event of low yields or poor quality crops. With low yields a higher proportion of the crop will usually be sold as fresh fruit and probably a smaller share of the balance will be suitable for segmenting. If the crop is of low quality there may in fact be a greater volume available for processing but much of it will only be suitable for juicing. Segment processors are therefore more vulnerable than juice processors to variations in supply and quality.



PRODUCING COUNTRIES

The leading producer of grapefruit segments is the USA, though her importance in international trade has declined markedly in recent years, and the leading exporting countries are British Honduras, Cyprus, Israel, Jamaica, the Republic of South Africa, Swaziland and Trinidad. Other known producers are Greece, Kenya, Nigeria, Spain and, formerly, Dominica. Malawi (1) and the Ivory Coast (2) have also been reported as producers or potential producers.

USA

Segment production started in the USA in about 1922 (3).

Table 1 shows the US production and export pattern during the period 1957 to 1967.

TABLE 1

US Production and Exports of Canned Grapefruit segments

Season beginning November	Production 1,000 cases (24 x No. 2 can equivalent)	Exports	Exports as a proportion of production %
1957	4,181	333	8
1958	4,575	318	7
1959	4,033	413	10
1960	4,355	453	10
1961	4,222	354	8
1962	2,613	211	8
1963	3,063	147	5
1964	3,606	105	3
1965	4,002	128	3
1966	4,756	83	2
1967	3,412		

Source: 1967 to 1968 *Agricultural Statistics* 1968 USDA pp 227, 228  
1967 *Florida Agricultural Statistics* 1968, 16

The sharp decline in production in 1962, which was followed by a gradual recovery in the next three years, can be attributed to the effects of the very severe winter of 1962/63 and the decline in 1967 to the effects of the cold winter 1967/68. If these facts are borne in mind it can be seen that production has remained relatively stable.

However, exports have declined steadily since 1960, when they accounted for 10% of production, and by 1966 they accounted for under 2% of total production.

Production of grapefruit segments in the USA is virtually confined to the state of Florida, the only other state which has reported a pack in recent years being Texas. Texan production never accounted for more than 0.7% of national production between 1957 and 1961 and none has been reported since the latter year. The canneries in Florida are privately owned concerns, including some whose names are internationally known. A sizeable proportion of the pack is probably marketed under packers' labels and the No. 303 is the traditionally used can.

If the abnormal years of 1962 to 1964 and 1967 are excluded, US production represents an average annual output of 57,000 tons over the period and exports ranged from about 6,100 tons in 1960 to only 1,100 tons in 1966.



[NB. These tonnage figures are obtained by conversion of the case equivalent data in Table 1, but the resultant export tonnages do not agree with the official export Trade Returns which can be seen in Table 2, although they are reputed to come from the same source — however the accounting years are different].

TABLE 2

US Exports of Canned Grapefruit

		1957/59	1960/62	1963	1964	1965	1966	1967	1968	1969
		average	average							
Total	Tons	4,013	5,486	2,411	1,485	1,403	1,639	1,128	1,260	1,074
Average value		120	121	132	142	140	148	152	184	190
£ per ton fob										
of which to:—										
UK	Tons	2,624	3,905	861	99	442	375	279	32	...
Average value		120	119	131	141	140	160	158	156	...
£ per ton fob										
Irish Rep.	Tons	297	362	395	58	113	110	91	23	...
Average value		118	122	137	138	142	145	143	161	...
£ per ton fob										
Canada	Tons	924	876	876	1,063	577	855	457	857	789
Average value		118	125	127	143	140	146	153	184	189
£ per ton fob										
Other countries	Tons	168	343	279	265	271	299	301	348	285

Source: Bureau of the Census Report No. FT 410. Dept of Commerce.

Despite the discrepancy, already noted, between the figures in Table 2 and those in Table 1, the general downward trend in exports is still evident and associated with this decline is an upward trend in unit value. Indeed the average value in 1957/59 was £120 per ton fob whereas in 1969 it was £190 per ton fo b — an increase of about 58%. Undoubtedly, this increase in price is the main reason why US exports have declined, particularly as competitors have been able to keep their prices at much lower levels (see Fig 1), although a shortfall in supplies as a result of the very severe winter of 1962/63 obviously had its effect. It might be noted however, that the exports of other canned fruits from the USA have similarly declined in recent years as they too have become less competititve as regards price.

A tariff of 35% ad valorem charged on grapefruit segments imported into the USA affords domestic producers a considerable degree of protection. Nevertheless, the USA imported a sizeable quantity (1,626 tons) of canned grapefruit from Israel for the first time in 1968 and almost as much in 1969; the increasing price structure of the US product plus the fact that Israel’s product became relatively cheaper as a result of her devaluation in 1967, no doubt contributed to the rise in US imports just mentioned.

In the early part (1957 to 1962) of the period under review two-thirds of US exports were consigned to the UK but this proportion had declined to only one fortieth by 1968 and virtually nil by 1969. In fact imports of canned grapefruit segments from the Dollar Area into the UK have been restricted by quota since 1948 (in common with supplies from other sources from 1948 to 1954 but from the Dollar Area only since 1954); the quota has been unaltered — £450,000 cif value — since 1959 (4). The Dollar Area quotas were fully taken up by US exporters from 1957 to 1962 but have not been fully utilised since the latter year. American exporters made efforts at various times to have the quota restrictions relaxed, but to no avail (5).



Canada has always been an important customer for US canned grapefruit segments and she has been the leading importer since 1963 taking, in fact, more than two-thirds of US exports in both 1968 and 1969. Nevertheless, her imports have declined over the period — by 5 and 4% respectively in the three year periods 1960/62 and 1963/65 compared with the immediately preceding three year periods, and by 14% in the period 1966/68 compared with 1963/65. Thus the USA has not been able to sustain her trade with Canada, despite having considerable advantages as regards transport costs by comparison with her competitors.

US exports to the Irish Republic, her third most important consumer have also declined drastically in recent years.

Exports to "other countries" have gone to a wide variety of places. For example this group comprised thirty-three and thirty-one countries respectively in 1967 and 1968\*. As might be expected European countries figure amongst the leaders of this group and nine of them together accounted for 194 and 167 tons in 1967 and 1968 respectively. Sweden and Switzerland were, in view of their smallish populations, important importers taking between 31 and 54 tons each in the years in question. Outside Europe, Japan was the leading importer, taking 24 and 56 tons of the US product in 1967 and 1968 respectively. The remaining exports went to many countries but appeared to be consigned in particular to countries where the USA has aid, commercial or military interests or commitments. The available data on US exports will be used again later in the report when assessing various importing countries' demands.

Caribbean Countries

Present producers of canned grapefruit segments are British Honduras, Jamaica and Trinidad, while Dominica was formerly a producer also.

Table 3 shows the volume of exports from the three countries currently producing this commodity.

TABLE 3  
Exports of Canned Grapefruit from British Honduras, Jamaica and Trinidad

	1957/59	1960/62	1963	1964	1965	1966	1967	1968	1969	Tons
	average	average								
British Honduras	1,745	1,475	2,366	508	2,108	3,483	3,157	...	...	
Jamaica	3,914	6,668	8,066	8,099	11,162	10,206	8,556	7,637	8,810	*1
Trinidad	-	87*	1,719	1,410	1,292	2,230	2,304	2,019	1,800	

Note: \*Almost wholly in 1962  
\*1 Jan to Nov only  
- Nil ... not available

Sources: Trade Report British Honduras  
External Trade of Jamaica  
Overseas Trade, Trinidad and Tobago

The whole of the processing industry in British Honduras comprises one enterprise — the Citrus Company of British Honduras. There is also an associated Citrus Company of Jamaica and these two companies market their produce under the well-known brand label — Trout Hall. In Jamaica there are in addition a number of other packers who process grapefruit segments which are packed both under packers' and importers'

\* A full breakdown of the US Export Trade Returns for 1969 is not available.



labels. The export of grapefruit segments started in a small way in Jamaica in 1949 but it was not until 1951 that significant quantities were exported (6), and exports from British Honduras also started in 1951 (7). The industries in these countries have benefited by the measure of protection afforded by the UK's policy of restricting imports from the USA (strictly speaking the Dollar Area but in practice the USA) who was the leading supplier pre-war and who had the capacity to corner the UK market once it was open to trade again after the war.

As regards Trinidad, this country had plant suitable for grapefruit segment production prior to the Second World War. However, the enterprise was found to be unprofitable and the plant was dismantled and stored (8). In 1961 the Co-operative Citrus Growers' Association of Trinidad received a loan of \$BWI 500,000 to install a grapefruit segment canning line and exports commenced in 1962 (9).

The traditional can used by the main processors in Jamaica and British Honduras is the A2 and this continues to be the case although other sizes — 1 Tall and A1 cans — have been introduced in recent years. The No. 303 can is used traditionally in Trinidad.

In the three countries under consideration the production of grapefruit products for export is a major outlet for the fruit. Indeed the export of fresh grapefruit from British Honduras has declined to negligible proportions since 1963. Jamaica and Trinidad still export sizeable quantities of fresh grapefruit and the requirements of this trade may on occasions leave the processors short of supplies. The privately owned canneries in these three countries obtain their supplies of fresh fruit mostly from the Co-operative Citrus Growers' Associations, which are responsible for fresh fruit marketing, although some meet part of their requirements from their own groves. Quite apart from competing interests for available fruit, year to year fluctuations in production obviously affect supplies; the British Honduras crop suffers hurricane damage from time to time (10), while Jamaica's also suffers some, but to date less severe hurricane damage (11).

The figures in Table 3 show that Jamaican output (as measured by exports) of grapefruit segments reached a peak in 1965 and then declined steadily until 1969 when there was a partial recovery. Exports from Trinidad built up to a peak in 1967 but have shown a tendency to decline since then, averaging 1,910 tons in the two years 1968 and 1969 compared with an average of 2,267 tons in the previous two years. Exports from British Honduras have fluctuated quite widely.

British Honduras exports have been consigned exclusively to the UK and both Jamaica and Trinidad send the bulk of theirs to the UK also. However, Jamaican exports to Canada averaged 225 tons during the years 1964 to 1966 — thus compensating for the decline in Canadian imports from the USA — while the German Federal Republic and the Netherlands combined took 173 tons and 73 tons in 1965 and 1966 respectively from Jamaica. Unfortunately subsequent Jamaican Trade Returns are insufficiently broken down to follow trends in detail. Nevertheless, there was a large "other countries" trade in 1968 and there is every reason to believe that the bulk of this went to Canada. Countries other than the UK to which Trinidad has exported more than 10 tons in some recent years are Bermuda, the Netherlands, New Zealand and Japan, with the 30 tons exported to Japan in 1968 being the biggest single annual quantity.

### *Cyprus*

Cyprus has now three privately owned canneries in which grapefruit segments are produced. These canneries have attracted foreign capital and/or expertise. Table 4 shows the development of the industry in Cyprus, as measured by exports, over the period 1962 to 1968.



TABLE 4

Exports of Canned Grapefruit from Cyprus

	1962	1963	1964	1965	1966	1967	1968	1969
								Tons
Total	680	730	989	585	865	1,345	1,273	2,256
of which to UK	617	725	982	557	817	1,322	1,244	2,150

Source: Cyprus Imports and Exports Statistics

Over the eight year period shown, 96% of Cyprus’s exports have been consigned to the UK, but the German Federal Republic took 31 tons during the years 1965 to 1968, Malaysia 21 tons during 1965 to 1968 and the Netherlands 14 tons in 1965.

Fresh fruit supplies are obtained by purchase on the open market or from the production of groves owned by the canneries. The needs of canners take second place to those of the fresh fruit export trade and it may be particularly difficult to obtain sufficient fruit early in the processing season (November/December) before the season’s requirements for the fresh market are known.

Canners in Cyprus tend to favour 1 Tall and A10 cans. The former, a retail sized can, is used in preference to the A2 can, partly because the segments obtained from fruit grown in sub-tropical/temperate regions are smaller and less bold than those from the fruit grown in the tropics and they therefore “look better” in a smaller can, and partly in order to cater for a popular retail ticket — this aspect of pricing is discussed in detail later.

Israel

Chorin (12) describes the historical build up of the processing industry in Israel in some detail.

Citrus processing in Israel started before the Second World War, but at the outbreak of war there were only two, multi-purpose factories in operation. There was a considerable expansion of the industry during the war owing to the disruption of the fresh fruit trade and to the demand of Allied Forces in the Mediterranean sector of hostilities for processed products. In 1964/65 thirty-two canneries were operating in Israel, of which twenty-one included grapefruit segment production in their schedule. Of the thirty-two canneries eight were rated as large (a capacity of 20,000 to 40,000 tons of various citrus products, plus other fruit and vegetable products) and it was naturally these which dominated the export market. In fact the output of the smaller canneries was anyway mainly sold on the domestic market. It is reported that only 6 processors, or processors’ groups, are now licensed to export (13). The other processors, mostly small, may only sell direct on the domestic market. If they wish to export they must either sell through one of the concerns already licensed to export, or a number may combine as a further group and apply for a licence to export.

The marketing of citrus for all purposes within Israel and of fresh fruit for export is the exclusive responsibility of the Citrus Marketing Board. This Board assigns first priority to the export market for fresh fruit, second priority to the domestic market for fresh fruit and finally supplies the processors’ needs. European demand for fresh fruit has increased rather more quickly than was anticipated some years ago; consequently processors sometimes find themselves short of fruit for processing. A case in point is that supplies for processing may have been short in 1969/70 as the crop in Israel in general matured a fortnight or so earlier than usual; consequently a higher proportion of the crop than usual may have been sold as fresh fruit (14).



Chorin reports that the supply of grapefruit for processing has increased as follows (12):—

1958/59	15,000 tons
1959/60	11,000 "
1960/61	12,000 "
1961/62	13,000 "
1962/63	23,000 "
1963/64	44,000 "
1964/65	58,000 "

Her further gave estimates of the quantities of fruit that would become available for processing in succeeding years as:—

1966/67	75,000 tons
1967/68	81,000 "
1968/69	93,000 "
1969/70	100,000 "

These figures show that Israel's export potential for processed products has been increasing very rapidly since 1962/63. This does not necessarily mean, of course, that her exports of grapefruit segments have or will increase in the same proportion (a) because the production of segments and of other products is planned according to assessments of the individual demand for each and (b) only some fruit is suitable for segment production.

TABLE 5

Exports of Canned Grapefruit from Israel

	1963	1964	1965	1966	1967	1968	1969	Tons
Total	7,912	8,888	7,541	9,694	11,170	13,968	18,749	
of which to:—								
UK	7,371	7,787	6,577	8,797	9,963	11,571	15,857	
Ireland	268	579	578	549	166	247	522	
USA	97	93	14	65	244	1,626	1,553	
Canada	-	126	3	2	38	47	191	
German Federal Republic	-	16	70	28	100	85	58	
Netherlands	75	164	150	148	276	236	260	
France	25	21	42	25	84	29	61	
Others	76	102	107	80	299	127	247	

Source: Israel Foreign Trade Central Bureau of Statistics

The data in Table 5 show how Israel's exports have increased, in fact total exports were 137% higher in 1969 than in 1963. The trend has, with the exception of 1965, been steadily upwards and it shows no sign of slackening off. Over the period as a whole the UK took 87% of Israel's exports though in 1968 and 1969, when the USA imported sizeable quantities, only 83% and 85% respectively.

The most commonly used cans are A2's, 46 oz and A10's, the first of which predominates. However, there is an increasing use of 1 Tall cans, both because it is easier to meet popular retail tickets with this can and also because the smaller segments (compared to the larger segments of tropically grown fruit) "look better" in the smaller cans.



Table 6 shows the size of the South African industry and of the export trade during the period 1963/64 to 1967/68.

TABLE 6

The Grapefruit Segment Industry in the Republic of South Africa – Production and Disposal

	Standard cases (24 x A2½ cans)					
	1963/64	1964/65	1965/66	1966/67	1967/68	1968/69
Total pack	209,000 (4,198)	186,000 (3,736)	199,000 (3,998)	242,375 (4,869)	300,862 (6,044)	382,381 (7,681)
Total exports	192,000 (3,857)	165,000 (3,315)	226,000 (4,540)	200,020 (4,018)	282,133 (5,668)	320,582 (6,440)
Exports of UK	180,000 (3,616)	116,000 (2,330)	206,000 (4,138)	191,145 (3,840)	265,723 (5,338)	288,133 (5,788)
Exports to other countries (by difference)	12,000 (241)	49,000 (984)	20,000 (402)	8,875 (197)	16,410 (360)	32,449 (652)

Note: the bracketed figures are calculated tonnage equivalents

Sources: *Fruit Intelligence* 1970, 20, No. 2, 138 – 1968/69  
*Fruit Intelligence* 1969, 19, No. 2, 138/139 – 1966/67 and 1967/68  
*Fruit Intelligence* 1967, 18, No. 10, 55 – 1963/64 to 1965/66

The difference between total pack and total exports over the six year period amounts to 133,883 standard cases, or 2,689 tons. Thus it would appear that approximately this quantity was sold on the domestic market, although different levels of stock at the beginning and end of the period would affect the figure. Nevertheless it is clear that the domestic market is only a minor outlet. On the basis of the figures given the UK has taken 90% of South Africa's exports over the period as a whole. This proportion would have been higher except for the large quantity which went to "other countries" in 1964/65. Exports to other countries have averaged 473 tons annually over the period shown.

The figures in Table 6 show that South Africa's production has increased significantly in the last three years shown after remaining relatively stable for the first three years. An indication of the earlier development of South Africa's industry can be obtained by referring to the UK's imports (see Table 7) as she is the main outlet for South African production. In fact, these averaged only 768 tons and 1,597 tons annually over the 1957/59 and 1960/62 periods respectively.

Despite the increasing production of canned grapefruit segments this pack is still regarded as a relatively minor item in the Republic's canning industry (15). In fact, as regards fruit products, it ranked sixth or seventh, behind peaches, pineapples, pears, apricots, fruit cocktail and sometimes fruit salad in each year over the period shown.

The export of many canned fruit products from the Republic is now controlled and promoted by the South African Canned Fruit Export Board which started functioning in February 1968 (16). However citrus products are not yet the responsibility of this Board. There are 16 canneries which produce grapefruit segments and the bulk of the production is sold under buyers' labels. Canners prefer to use 1 Tall and A10 cans, although there is some use of A2, A1 and 8 oz cans also. Fresh fruit supplies are obtained from the Citrus Board and, with occasional exceptions in Western Cape and the Transvaal, supplies are adequate.



## Swaziland

There is one cannery in Swaziland. The Commonwealth Development Corporation had an interest in this cannery at one time, and it was later wholly Government owned. More recently a well-known US concern has acquired a major holding in the cannery (17).

The UK's import Trade Returns (Table 7) shows that Swaziland supplied 468, 485 and 1,370 tons respectively in 1967, 1968 and 1969. According to one report the Swaziland factory's intake of fresh grapefruit amounted to 2,600 tons in 1967 compared with only 600 tons in 1966 (18).

Swaziland grapefruit, like South Africa's tends to be rather small so the most commonly used containers are 1 Tall, A1 and 8 oz cans.

## IMPORT TRADE

Only one country, the UK, shows canned grapefruit separately in its import Trade Returns. However, a number show this commodity in their export Trade Returns — indeed use has already been made of these data in the preceding section and they will be used to assess import demand in countries other than the UK. It should be noted that the Trade Returns used may include small quantities of other grapefruit products and also bottled as well as canned goods.

## The United Kingdom

Table 7 shows the UK's imports over the period 1957 to 1969.

TABLE 7

### Imports of Canned Grapefruit into the UK

		1957/59	1960/62	1963	1964	1965	1966	1967	1968	1969(a)
		average	average							
Total	Tons	13,646	16,937	22,918	21,599	21,516	27,137	30,188	29,637	37,230
	£'000	1,961	2,209	3,090	2,898	2,672	3,472	3,896	3,817	5,091
of which from										
Cyprus	Tons	937	454	729	885	558	746	1,206	1,134	2,131
	£'000	138	60	100	116	69	94	151	137	272
Spain	Tons	...	...	211	30	(39)	(18)	(45)	122	10
	£'000	...	...	21	3	(4)	(2)	(5)	12	1
Israel	Tons	3,816	3,880	7,661	7,247	6,732	8,225	10,292	11,327	14,758
	£'000	574	506	1,030	962	820	1,015	1,284	1,387	1,976
Swaziland	Tons	...	...	...	...	...	...	(468)	485	1,370
	£'000	...	...	...	...	...	...	(58)	62	179
South Africa	Tons	768	1,597	2,416	3,346	2,811	4,316	4,705	6,122	6,640
	£'000	106	208	307	431	355	546	612	827	939
British Honduras	Tons	2,085	1,434	1,746	1,762	846	3,055	3,488	2,494	3,912
	£'000	288	186	240	255	107	414	483	334	563
Jamaica	Tons	3,029	5,366	6,840	6,560	8,893	8,260	7,176	6,032	6,890
	£'000	443	696	939	876	1,085	1,060	929	788	933
Trinidad	Tons	—	—	1,730	1,329	1,198	1,974	2,329	1,778	1,443
	£'000	—	—	246	183	164	260	306	251	217
USA	Tons	2,622	3,733	1,303	241	407	367	274	42	2
	£'000	354	499	176	46	66	60	48	6	1
Other Countries	Tons	389	473	282	199	32	176	205	101	74
	£'000	58	54	31	26	2	21	20	13	10

Notes: (a) Preliminary data. ( ) data obtained from preliminary data of the year concerned. These countries are not shown separately in the final Trade Returns and there are some minor adjustments in these Returns. ... information not available. — nil or negligible.

Source: *The Trade of the United Kingdom HM Customs and Excise*



The average annual imports for the four successive three year periods – 1957/59, 1960/62, 1963/65 and 1966/68 – were 13,646; 16,937, 22,011 and 28,987 tons respectively, while imports in 1969 alone reached 37,230 tons. Thus imports rose by 24%, 29% and 32% over the averaged periods and by a further 28% in 1969 alone. Therefore, not only has there been a steady rise in imports but the rate of increase accelerated somewhat during the first twelve years shown. Whether or not the sharp jump in imports in 1969 is an indication of much increased demand will not be known until subsequent years' data becomes available; however the figures in Table 7 do show that substantial increases in imports have occurred at three yearly intervals in the past and the much greater imports recorded in 1969 could be a repeat of this pattern. It will also be noted that there has been a considerable change in the relative importance of various suppliers. Table 8 summarises the position:—

TABLE 8

The Leading Suppliers' shares of the UK market for Canned Grapefruit

	1957/59	1960/62	1963/65	1966/68	1969
Supplying Country	average	average			
	%	%	%	%	%
Israel	28.0	22.9	32.8	34.3	39.6
Jamaica	22.2	31.7	33.8	24.7	18.5
USA	19.2	22.0	3.0	0.8	—
British Honduras	15.3	8.5	6.6	10.4	10.5
Cyprus	6.9	2.7	3.3	3.5	5.7
South Africa	5.6	9.4	13.0	17.4	17.8
Trinidad	—	—	6.4	7.0	3.9
Swaziland	—	—	—	1.1*	3.7
Total	97.2	97.2	98.9	99.2	99.7

Notes: \* two years supplies only averaged over three years  
— Nil or negligible

Source: Derived from *The Trade of the United Kingdom, HM Customs and Excise*

The data show quite clearly the steady increase in both Israel's and South Africa's share of the market, the decline and virtual elimination of the USA as a supplier, the declining share of the Caribbean suppliers as a group in recent years and the recent advent of Swaziland as a supplier of some importance.

It is of interest to note that per capita consumption in the UK during the period 1966/68 was around 1.2 lb per annum while the 1969 imports, if maintained in subsequent years, suggest a consumption level of 1.5 lb per annum. These consumption rates compare with those for the USA shown below.

	1963	1964	1965	1966	lb per head	
					1967(a)	1968(b)
Canned Citrus Segments	0.6	0.8	0.9	1.0	1.1	1.1
Chilled Citrus Segments	0.3	0.4	0.3	0.5	0.5	0.4

Source: *Fruit Intelligence*, 1969, 19, No. 10, 686.



Table 9 shows those countries whose demand for canned grapefruit segments has exceeded an average of 20 tons per year over the period 1964 to 1968. The figures shown are the aggregate *known*, or in a few cases estimated, exports from a number of the leading world suppliers of this commodity to the countries concerned. The foot-note to Table 9 gives further details.

TABLE 9  
The Demand for Canned Grapefruit in Various Countries

Country	1964	1965	1966	1967	1968	Average	Tons
Canada	1,457	787	1,059	(625)	(1,490)	(1,080)	
Irish Republic	607	691	689	359	254	522	
USA	93	17	65	244	1,626	409	
Netherlands	180	298	244	(400)	(330)	(290)	
German Federal Rep	42	191	83	(160)	(190)	(130)	
Switzerland	51	35	48	71	74	56	
Japan	27	22	74	29	74	45	
France	22	42	25	87	29	41	
Malaysia/Singapore	30	40	50	22	42	37	
Sweden	28	31	16	52	52	36	
Denmark	12	39	14	59	18	28	
Belgium	30	20	15	36	31	26	
Bermuda	7	15	31	30	(35)	(24)	
Australia	3	41	29	12	21	21	
Italy	16	11	13	34	26	20	
Total including USA	2,605	2,280	2,455	(2,220)	(4,292)	(2,765)	
Total excluding USA	2,512	2,263	2,390	(1,976)	(2,666)	(2,356)	

Notes: 1. Bracketed figures denote some degree of estimation, all other figures are *known* exports only. The estimates were necessary because some of the available Trade Returns for later years showed less detail than in earlier years.

2. The data are based on the export Trade Returns of five countries only — USA, Jamaica, Cyprus, Israel and Trinidad. However British Honduras seemingly only exports to the UK so the only serious omission is South Africa whose exports to countries other than the UK averaged 437 tons annually over the period 1963/64 to 1967/68 but no details are known.

Sources: *Export Trade Returns of USA, Jamaica, Cyprus, Israel and Trinidad*

The following observations can be made on the basis of the data in Table 9:

- i. Exports of this commodity to the countries shown has ranged from 2,200 tons to 4,292 tons per year over the period shown. The lowest of these figures amounted to only 7% of the UK's imports in the same year (1967) and the highest to 14% (1968) — thus the predominance of the UK in international trade is clearly illustrated. If it was possible to construct a complete picture of the trade the disparity between the UK and the rest of the world as outlets would obviously not be quite so great; nevertheless the UK would remain by far the largest importer,
- ii. excluding the USA, imports by the other countries shown have amounted to between 7 and 12% of the UK's imports,
- iii. after the UK, the leading importing countries, on the basis of their average imports over the period as a whole, are Canada, the Irish Republic, the USA, the Netherlands, the German Federal Republic and Switzerland.

Canada's imports have fluctuated; however there is no discernible trend but her imports from the USA have tended to decline recently. Her imports imply a per capita consumption of about 0.1 lb per annum.



The *Irish Republic's* imports declined steeply in 1967 and 1968 and this fall was not made good by re-exports from the UK which averaged only 7 tons per year in these two years. However, there was a marked recovery in 1969 when Israel exported over 500 tons to the Republic. Imports of 500 tons imply a per capita consumption of about 0.4 lb per annum.

The *USA* has only latterly become an important importer. Israel with 1,626 tons, was the only known supplier in 1968 and she supplied almost as much — 1,553 tons — in 1969. It seems, therefore, that the *USA* might have become an established market even though her imports represent only about 3% of her usual annual consumption. In all events she has been, marginally, a net importer during the last two years. This change round is attributed on the one hand to the progressively less competitive price of her produce in export markets (already discussed) and on the other to the devaluation of some currencies against the US \$ in 1967; Israel was one country which devalued and she appears to have derived considerable benefit as an exporter to the *USA* as a result.

The *Netherlands', Germany's* and *Switzerland's* imports have all fluctuated over the years. The average annual per capita consumptions in these countries over the last two years shown were 0.07 lb, 0.007lb and 0.03 lb respectively.

Despite the fluctuation in annual imports into these three countries a moving two year average, as shown below, does suggest that there has been an overall increase in demand.

1964/65	1965/66	1966/67	1967/68	Tons
399	450	503	613	

The same applies to imports into the other five European countries shown (*France, Sweden, Denmark, Belgium* and *Italy*), the two year moving average in this case being:

1964/65	1965/66	1966/67	1967/68	Tons
126	113	176	212	

A similar two-year moving average analysis for the four remaining countries (*Japan, Malaysia/Singapore, Bermuda* and *Australia*) still reveals a fluctuating pattern.

In addition to the 15 countries listed in Table 9 some 30 or so further countries have, at one time or another imported small quantities of this commodity from the *USA* (possibly from other suppliers also but details are not available). The scatter of these countries is considerable but the impression gained by looking at the *US* export statistics is, as has been mentioned earlier, that countries most prominent in the list are those where the *USA* has aid, commercial or military commitments — ie the trade probably reflects the demand of *US* citizens temporarily resident in the countries rather than that of indigenous peoples.

STRUCTURE OF THE TRADE

This section relates to the UK only.

As has been seen earlier, more often than not there are a number of independently operated canneries in each of the main supplying countries; exceptions to this generalisation are *British Honduras* and *Swaziland*, while a large part of *Jamaica's* exports is supplied by one concern.



The exporters market their products either under their own label (packers' labels) or under buyers' labels (importers', distributors' or retailers' labels). Leading examples of the former are "Trout Hall" – supplied by packers in British Honduras and Jamaica, and "Assis" – the well-known Israeli brand.

A common arrangement is for an overseas cannery to sell the whole of its supplies for the UK to, or through, one importer. The usual trading terms are outright purchase by the importer, frequently on cif terms, although one importer at least acts as an agent, selling on consignment. Those canners who sell firm publish their "new pack" prices each season, taking into account world supplies, cost of production etc, in arriving at the prices. The extent to which these prices are negotiable is not clear but it is known that fixed discounts are offered for quantity and/or spaced sales and it is believed that other discounts are also offered. The latter are in effect a form of price negotiation. Canners who sell on consignment/commission terms expect their agents to sell at the best obtainable prices of course. Even so, shared costs, eg of advertising, are fully discussed and the agent may offer quantity/spaced sale discounts.

Examples of the discounts offered in 1969/70 are 3d and 6d per dozen on Trout Hall A1 and A2 cans respectively for evenly spaced tenders of 1,000 cartons or more, while Israeli exporters offered discounts which increased with the volume of sales – the highest discount was 2½% for 30,000 cartons or more.

The importers are not in general geared to distribute to many small retail outlets so they sell to wholesale grocers, or multiples and supermarket chains. While it may be thought that multiples and supermarkets might, as is their practice for some goods, buy direct from the suppliers, this does not in fact occur, there being apparently two main reasons why not. Firstly, importers have negotiated sole agencies with their overseas suppliers and, secondly, grapefruit segments are still a "slow-moving" line compared with some others and the finance and storage space that would be tied up in holding large stocks is better devoted to other purposes.

The bulk of canned grapefruit segments imported into the UK go to the retail trade, in which there is an outlet for A2, No. 303, 1 Tall, A1 and even 8 oz cans. The first of these, the A2, is the traditional can used by Trout Hall canners and as it has been adopted by other canners also it is still the most common. (As noted elsewhere the traditional Florida can is the No. 303 and this is also used by Trinidad.) However there has been an increasing usage of the smaller cans latterly, particularly so that retail prices can be maintained at popular levels. As regards the catering industry the two main sizes of cans used are A10 and 46 oz. However it is understood that some small scale caterers – eg seaside landladies – favour the A2 for their purposes since, despite the higher unit cost of contents, there are fewer "portions" to dispose of and wastage is reduced – in this respect it has to be remembered that grapefruit is principally a breakfast food served once a day while fruits like peaches may be served at two main meals. It is doubtful whether any grapefruit segments are subsequently blended with other fruits into fruit salads.

It is appropriate to draw attention in this section to two other aspects – margins and advertising.

Margins commonly enjoyed by the firms at various levels in the distribution chain in the UK have been reported as being of the following order (19):

Importers	1-3%
Agents	5%
Wholesalers	10%
Retailers	20%

Thus the difference between the landed duty paid (sugar surcharge not customs duty since there is none) and retail prices will be rather more than 30% if all links in the distribution chain are involved. However it will be somewhat less if the wholesaling or other link is omitted – a growing practice for the more common commodities where sales to multiples are concerned. However, grapefruit segments have yet to achieve the sales volume and popularity of items like pineapples and peaches.



Information on advertising was obtained both from members of the trade and the same report just mentioned (20). The latter published figures of the expenditure on Press and TV advertising for canned fruits by Trinidad and Trout Hall. The expenditure was as follows:—

	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	£
Trinidad	-	2,855	4,122	3,019	4,123	1,539	
Trout Hall	383	9,443	8,802	3,798	4,172	7,080	

Members of the trade emphasise that the cost of advertising is high and the media used have to be selected with care. It seems that advertising in women’s magazines is a favoured method, the reasoning being that the readers are also the final customers.

QUALITY

Production Factors

The quality of grapefruit segments canned in syrup is governed by a number of factors such as fruit variety, regional and seasonal variations, processing treatments applied to the fruit and also the storage conditions of the canned product.

Two main varieties of grapefruit, Duncan and Marsh Seedless, are used in canning grapefruit segments. In Florida the Duncan variety is preferred to the Marsh Seedless since it has been found to produce a much higher quality product. It suffers from one major defect; this is that it contains a large number of seeds which must be removed by hand during segment preparation since the presence of seeds can result in down-grading the final product.

The Duncan variety of grapefruit does however produce a segment which is much firmer in texture than that produced from the Marsh Seedless variety (which is used in the West Indies and Israel) and thus does not break down so easily during the preparation of the canned product.

Breakdown of the segments can also be due to the processing techniques employed. Lye peeling is a much more economical method than hand peeling and is also more complete. It has however disadvantages, one being that the high temperature of the caustic soda lye tends to expand the carpels and often to burst them causing them to bleed. It does however leave a little fibrous cord down the back of each section which helps to strengthen the segment and hold it together, but which causes inconvenience when the segment is consumed, because the cord is difficult to cut with a spoon. The general opinion in the trade however is that while lye peeling method does not give as good a product as knife peeling, the fruit produced is sweeter as a portion of the citric acid in the fruit is neutralised by the alkali used.

Of equal importance to texture is the flavour of the pack. The most usual defect is excessive bitterness. The bitterness is caused by the presence of naringin, a glycoside which is a normal constituent of the grapefruit. As the grapefruit ripens or when the fruit is stored the naringin content is reduced, thus immature fruit used for processing are likely to give a product which is excessively bitter. The naringin is mainly concentrated in the albedo and white membranes of the fruit which are removed during processing.

Canned grapefruit when stored at ordinary temperatures gradually becomes yellow or brown. Experimental work in Florida has shown that there is a correlation between this browning reaction and acid content. It is possible that this effect is related to the chemical degradation of sugars and the polymerization of some of



the resulting breakdown products by citric acid with the formation of dark coloured furfural derivatives.

A further important defect sometimes encountered with sorted canned grapefruit (especially when stored at low temperatures) is that crystals of naringin come out of solution. These crystals deposit on the segments of fruit and are often mistaken for mould by the consumer although these small clusters of deposited naringin crystals are in no way harmful.

**Prescribed Standards**

A number of producing countries have standards which their canners have to attain. Extracts of the US, South African Israeli standards are in Appendix 1.

The FAO/WHO Codex Alimentarius Commission is drafting standards for a number of canned fruits and it is reported that those for grapefruit segments are ready to be circulated to Governments for comment(21).The details are not known.

The essentials of the prescribed standards of the exporting countries may be reviewed under a number of headings:—

a. *Proportion of whole segments*

The following are examples:

US Fancy	at least 75%
US Choice	at least 50%
US Broken	Less than 50%
Israeli whole segments	at least 78%
Israeli broken segments	less than 78%
South African Fancy	at least 80%
South African Choice	at least 60%
South African Standard	at least 40%

In each case partial fracture of the segments is allowed, as is some reduction in length of the original segment.

b. *Drained Weights*

In general drained weights as prescribed lie between 50 and 57%. The higher drained weight figures are required for the highest grades and in general slightly lower drained weights are permitted for fruit canned in heavier syrups.

c. *Syruping*

Ranges of °Brix values are prescribed — perhaps the two most commonly used syrups are light (16° to 18° Brix) and heavy (18° to 20° Brix).

d. *Defects*

The more common defects are the presence of seeds, albedo, tough membranes and possibly peel and leaves. In effect the standards require that there shall be only minimal presence of any of these — for example the Israeli standards permit not more than one fully developed seed and 9 cm<sup>2</sup> of albedo or tough membrane per 560 ml of product to achieve the highest points evaluation rating.

Irregularity of segment size is also regarded as a defect.

e. *Colour*

A light colour, free from brown tint is required.



f. *Texture*

Juiciness, freedom from stringy or dry cells, firmness but with no tendency for the segments to disintegrate are the characteristics sought.

g. *Flavour*

A typical grapefruit flavour with no off-odours.

## Labelling and other Regulations in the UK

This section is concerned with the UK – the major market.

a. *Labelling and Labelling Regulations*

An attractive label on cans destined for retail sales is an important factor in selling the product. There are however regulations which have to be complied with in the UK.

At present the labelling of foods for sale in England and Wales is controlled by the "Labelling of Food Order." 1953 (SI 1953 No. 536). However wider and stricter controls which will become fully operative on 1 January 1973 – The Labelling of Food Regulations 1970 (SI 1970 No. 400) – have been published. All suppliers will have to conform and it is obviously in the interest of new suppliers to ensure that their labels conform from the outset, rather than make a further label design change before 1973. The more important requirements of the new regulations as they affect canned fruits are:

- i. all pre-packed foods for retail sale will have to bear the common or usual name, if one exists, or an "appropriate designation". "Appropriate designation" is defined as "a name or description or a name and description sufficiently specific, in each case, to indicate to a prospective purchaser the true nature of the food to which it is applied";
- ii. the name and address of the packer, labeller, or person on whose behalf the food is labelled must be shown on the label. A registered trade mark may no longer be shown as an alternative;
- iii. it will be necessary to show on the label a list of the ingredients, including any additives, in descending order of weight;
- iv. the regulations (Schedule 5 of the regulations is the section concerned) are specific concerning the manner of marking or labelling, for example:
  - a. all lettering will be clear, legible, conspicuous and not interrupted by other written or pictorial matter,
  - b. the letters of each words shall be uniform in size and colour, save that the initial letter may be taller and conjunctions or participles may may be shorter, and the words must be set against a contrasting background,
  - c. the usual name or appropriate designation shall be more prominent than other written matter,
  - d. the list of ingredients shall be simultaneously visible together with the appropriate designation, or within a surrounding line or on a contrasting background,
  - e. the smallest letter on cans up to 12 cm high (includes most commonly used cans) must be at least 2 mm in height for the designation and 1 mm for ingredients.



v. a part — Part IV — of the regulations is concerned with claims made for the value of food as regards energy, calorie and protein content, vitamins and mineral content, and for slimming, diabetic, tonic, restorative and medicinal properties.

Exporters are advised to obtain a copy of the regulations (SI 1970 No. 400) from Her Majesty's Stationery Office as they are very detailed and it is not possible to include all the relevant points in a summary.

The leading can manufacturers usually have a label design/production department where plates or ready printed labels, which would of course comply with the regulations, may be purchased. Importers also will advise their suppliers on the requirements and arrange for the supply of labels or plates.

b. *Other Regulations*

THE COLOURING MATTER ON FOOD REGULATIONS 1966 SI 1966 No. 1203

The Statutory Instrument quoted contains regulations which list the permitted colouring matters on all foods, whether processed or not.

PRESERVATIVES 1962 SI 1532

The regulations first list substances which are excluded from the definition as preservatives — citric acid is for example one of these substances. The laid down limits for permitted preservatives in fruit products are:

Sulphur dioxide	350 ppm
Benzoic acid	800 ppm

INJURIOUS METALS

The permitted contents of arsenic and lead are laid down in separate Statutory Instruments:

*Arsenic* 1959 SI 831 928 (S51)

General Limit (except beverages)	1.0 ppm
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*Lead* 1961 SI 1931

General Limit (except beverages)	2.0 ppm
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There are no SI's governing the permitted contents of copper, tin or zinc in foods but the matter has been studied by the Food Safety Committee which recommended limits not exceeding 20 ppm, 250 ppm and 50 ppm respectively.

**Trade Opinions and Practice**

The information in this section is derived from discussions with members of the trade in the UK only.

In practice the trade appears to be satisfied with the quality of most grapefruit segment packs on the market, though its members recognise that intrinsic differences in the quality of fruit grown under different environments influence the quality of the canned product — thus tropically grown fruit yields a juicier, bolder product than sub-tropically grown fruit. It is these intrinsic differences which contribute most to the price differentials which exist, although brand image may also have its effect.



The various brands (or sources) of grapefruit segments are now so well known that they sell mainly on reputation alone, although some big buyers may have their own specifications. The trade comments that the quality of product from one packer may vary according to the stage of the season when it was packed and for this reason some unevenness is expected and generally accepted.

Factors which the trade regard as important are:—

- i. Percentage of whole segments
- ii. Drained weight
- iii. Flavour — not bitter — there have been occasional problems with naringin deposits. In general the tropical pack is preferred.
- iv. Colour — no browning should be evident.
- v. Firmness — it is important that the segments should not disintegrate. Tropical fruit is more liable to do this than sub-tropical fruit but serious problems are rare.

Perhaps the trade's main concern relates to the most suitable can sizes.

Before the Second World War the US dominated the market in the UK and, since the No. 303 can is used traditionally by canners in Florida this was then most common on the UK market. Most Caribbean canners adopted the A2 can and as they dominated the UK market in the 1950's this can became widely accepted and it is still the most commonly used can as other suppliers also adopted it. However greater use is now being made of smaller cans — 1 Tall, A1 and 8 oz — for retail packs, and the 46 oz and A10 cans are used for catering packs.

Two factors have helped to encourage the use of smaller cans for retail packs. Firstly, whereas the large, bold segments of tropically grown fruit "look good" in the largish A2 can the smaller segment, or "peg", of some other grapefruit tends to "get lost" in this size of can and consequently "looks much better" in smaller cans. Secondly, it is not possible for retailers to sell A2 cans at or under the popular retail ticket of 2s. 0d. and maintain their normal margin unless the cif price is 19s. 6d. or less per dozen (at this value the cif price is 1s. 7½d. per can to which has to be added between 20+% and 30+%, depending on the number of stages in the distribution chain used, to meet the usual margins, plus a further small amount to cover sugar surcharge (variable). Thus even at the lowest margin the 2s 0d retail price ticket for A2 cans is only barely possible). Reference to Table 10 shows that cif prices have in fact now topped the 19s 6d per dozen level. "Popular" retail price tickets are probably becoming more important as supermarkets and multiples increase their share of the grocery retail trade, hence the reason that the usage of smaller retail sized cans is developing.

## PRICES

The average annual cif "all source" prices of canned grapefruit imported into the UK, together with the index using 1957 as the base year, are shown in Table 10 over.



TABLE 10

Average Annual cif prices of Canned Grapefruit imported into the UK

	Price	Index		Price	Index
	£'s per ton			£'s per ton	
1957	141	100	1964	134	95
1958	152	108	1965	124	88
1959	136	96	1966	128	91
1960	129	91	1967	129	91
1961	130	92	1968	129	91
1962	132	94	1969	137	97
1963	135	96			
	1957	Base year = 100			

Source: Derived from *The Trade of the United Kingdom HM Customs and Excise*

These data show that prices rose in 1958, declined for the next two years, rose again to a peak in 1963, fell to their lowest level in 1965, then recovered slightly and remained at a constant level for the next three years before rising quite steeply in 1969. However even the 1969 index was four points below the base year of 12 years earlier.

The most reasonable explanations for the price fluctuations over the period shown are:

- a. the generally high prices in the late 1950's probably reflected an under-supplied market, but the trend over this period suggests that supplies rapidly caught up with demand;
- b. the unusually high level in 1958 can be attributed to faulty market intelligence which resulted in there being much larger imports than usual (Israel sold between three and four times the quantity she sold in 1957) yet at much higher prices than previously (22);
- c. the rise in price levels in 1963 and 1964 can be attributed to the effects on supply of the severe winter of 1962/63 in the USA which curtailed supplies from that source. Indeed, had Trinidad not entered the market at that date prices may well have gone much higher;
- d. the generally low price levels between 1965 and 1968 may be attributed to the pressure of increased supplies coming on to the market, particularly from Israel and South Africa;
- e. the increase in prices in 1969, despite the much higher level of imports, is attributed on the one hand to the fact that packers could not longer absorb increased costs and on the other to the fact that there was probably a genuine increase in demand.

Table 11 below shows the "new season" prices for Israeli and Trout Hall (Caribbean) canned grapefruit segments in the UK over the three seasons 1967/68, 1968/69 and 1969/70.



TABLE 11

New Season Prices for Israeli and Trout Hall (Caribbean) Grapefruit Segments in the UK

	per dozen cans					
	1967/68		1968/69		1969/70	
	s	d	s	d	s	d
Israeli cif						
Whole segments 24/1's Tall		-		-	18	0
24/A2's	17	6	19	6	21	0
12/46 oz	41	6	46	6	48	0
6/A10's	90	0	98	0	105	0
Broken segments 24/A2's	15	6	17	0	17	9
6/A10's	73	0	84	0	90	0
Trout Hall — ex store						
24/A2's ( ii)	20	9	22	3	22	9
(iii)	20	3	21	9	22	3
48/A1's ( ii)	12	6	13	6	13	6
(iii)	12	3	13	3	13	3

Notes (i) Israeli exporters offer discounts of 1% for 5,000 to 14,999 cartons; 2% for 15,000 to 29,999 cartons and 2½% for over 30,000 cartons.

(ii) up to 999 cartons based on five equal tenders  
November/December, January/February,  
March/April, May/June, July/August.

(iii) 1,000 cartons and over

Source: *The Grocers Gazette* October 1969

Prices quoted by importers for competitive products are:

South African A1's	11s	3d to 11s	6d per dozen cif	1968/69
Swaziland A2's	17s	3d	" "	1968/69
A1's	10s	9d	" "	1968/69
8 oz	8s	9d	" "	1968/69
Cyprus A10's	101s	0d	" " ldp*	1968/69
"	107s	0d to 108s	0d " "	1969/70

\*landed duty paid

It will be noted the prices shown in Table 11 and those quoted by importers are not all directly comparable, some being cif and others ldp, or ex-store. Some care has to be exercised therefore in their use.

However an upward trend in prices is clearly evident confirming both the evidence of the analysis of average annual cif values given in Table 10, and also the trade's view that prices must go up owing to progressively increasing production costs which the packers can no longer absorb.

The price data also illustrates the premiums paid for products from different sources (depicting presumably quality differences) and also the higher unit costs of the contents of smaller tins.

Where it is possible to make comparisons, ie in the same year and for the same sized can and having made allowances for sugar surcharge and other probable costs, the Trout Hall product is always the most expensive, usually being 5 to 10% more costly than either South African or Israeli produce. The Swaziland product is the cheapest weight for weight of those shown.



As regards unit costs of the contents, if the catering pack (A10) is given a value of 1 the A2 and A1 packs have values of about 1.2 and 1.4 respectively if like qualities are compared. This is the picture expected since the proportionate cost of packing materials increases with smaller sized cans and, moreover, with exclusively catering packs (A10) the cost of labelling is also much reduced because the label is very simply designed and printed as it is not part of the sales image.

At the beginning of this section on "Prices" the average annual "all sources" cif prices were used to illustrate basic price trends. Attention is now turned toward comparisons of the prices of the leading suppliers' products. Fig 1 shows the average annual cif prices of the leading suppliers' products compared with the all source average and the following observations may be made.

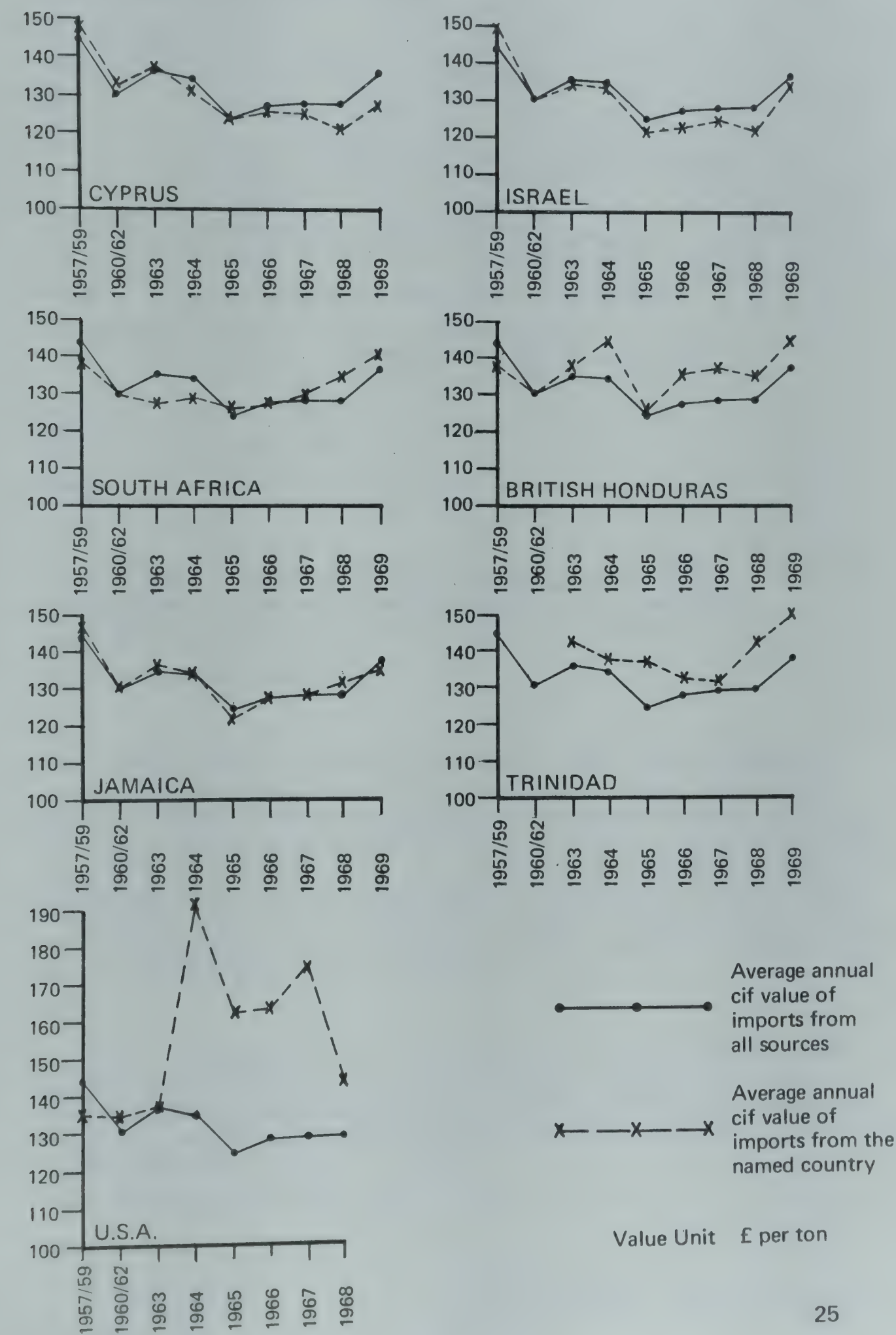
- i. with two exceptions – the USA and Trinidad – all suppliers received their lowest prices in 1965. The USA's performance is atypical anyway – see (iii) below;
- ii. in general Caribbean produce tends to be more expensive than Mediterranean or South African produce. This merely confirms the comments made elsewhere in the report that the quality of the former group is intrinsically rather better than that of the latter group. However it might be noted that the Jamaican product is less expensive than the other Caribbean products and that the South African product has improved its relative position in recent years;
- iii. the value of the US product has fluctuated violently and the pattern of year to year fluctuations has been atypical. Until 1963 its price was fully competitive but it increased by 41% in the one year to 1964. This dramatic rise in price (and the associated fall in quantity exported to the UK, which started in 1963) may be attributed to the effects of the severe winter of 1962/63. However, despite a subsequent fall the prices of the US product remained well above world prices until 1967 when the UK's imports had declined to 274 tons – about 1/14th of the average of 1960/62. Fig 1 suggests that the US product became much more competitive in 1968 but this is due to calculating the average cif price from rounded data (tons and thousands of pounds) and the price was in fact £153 per ton – still considerably above other prices. In effect the US canners have priced themselves out of the market and supplied only 2 tons in 1969.







Figure 1  
A comparison of the values of canned grapefruit from leading suppliers on the United Kingdom markets







TARIFFS, OTHER DUTIES, ETC AND QUOTAS

Tariffs

The following tariffs are levied by the leading importers on imported canned grapefruit.

TABLE 12

Tariffs levied on Imported Canned Grapefruit

Country	Rate of duty
UK	Free from all sources
EEC	Imports from third countries pay a duty of 18.4% ad valorem until 30 June 1970 (this current rate is a reduction from the standard rate of 20% ad valorem)
Switzerland	30.00 Francs per 100 kg gross for GATT members 60.00 " " " " " " General Tariff
Sweden	30.00 Kroner per 100 kg (inclusive of retail packings)
Irish Republic*	4.5d per lb — Full and Preferential Tariffs; 3.7d per lb — Special Preferential, United Kingdom and Northern Ireland Tariffs
Japan	35% ad valorem
USA	35% ad valorem
Canada	35% ad valorem; 20% — Most Favoured Nation; Free — British Preferential Tariff.

\*Full self-explanatory; Preferential — some goods from British Commonwealth or Republic of South Africa; Special Preferential — some goods from Canada and also certain fruits from Australia and South Africa (applies in this case); UK — goods grown, produced, manufactured in or consigned from UK; Northern Ireland — a special case for Northern Ireland which is not applicable in this case.

Other Duties, Levies or Taxes

UK

Most canned goods (juices are excluded) containing added sugar are subject to a *sugar surcharge* on importation into the UK, regardless of source, ie the charge is non-discriminatory. The amount of duty payable, which varies according to the difference in the World and Commonwealth sugar prices, is calculated and published periodically by the Board of Trade. Until recently the duty was charged on an ad valorem basis but this has been replaced by a specific duty which moves in steps of ¼d per lb of refined sugar. The present level (July 1970) is 1¼d per lb which for fruits canned in syrup and other commodities in BTN Group 20.06 means an actual duty payable of 1s 5d per cwt of the commodity.

EEC

In addition to the import duty charged on goods from third countries there is an additional *agricultural levy — for sugar*. The levy is calculated on the basis of a complicated formula and is published quarterly in the official journal of the EEC. It is charged per 100 kg of product and in October 1969 had the effect of adding approximately a further 5% to retail prices.

Other duties, taxes etc in EEC countries are:—

France

Value added Tax	17.64% of duty paid value. (applied to all goods whether imported or not)
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*Belgium*

Transmission Tax	14% on containers of more than 1kg. 17% " " " 1kg or less (applied to all goods whether imported or not)
Excise tax on sugar	12 francs per 100 kg net for goods containing 15% to 25% sugar.

*Luxembourg*

Import Tax	3% on duty paid value on imported goods (an equivalent tax is payable on domestically produced goods)
Excise tax on sugar	As for Belgium

*The Netherlands*

Value added tax	12% (applies to all goods whether imported or not)
Excise tax on sugar	0.09 Guilders per 100 kg net for goods containing 15% to 25% sugar

*German Federal Republic*

Import Turnover Tax	5.5% on Franco value
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*Italy*

Turnover tax	4%
Equalization tax	4.2%.

**Quotas**

The UK has restricted imports of canned grapefruit segments from the Dollar Area to £450,000 cif value since 1959. Before that year quotas were in force but they varied yearly.

The combined effects of various duties, taxes and quotas may be summarized as follows:—

i. with the exception of the quota restriction on imports from the Dollar Area, the UK is an open market for all potential suppliers and even the Dollar Area quota has had little significance in recent years as it has not been taken up. There is no Customs Duty on non-Commonwealth produce as is sometimes the case with other products, there are no internal taxes which have the effect of raising retail prices and the canned product has some advantage over non-Commonwealth (except South African) fresh fruit which is subject to a tariff on importation of 5s 0d per cwt net;

ii. in the other countries shown the rate of Customs duties is high, ranging from the 18.4% for the EEC to 35% in a number of countries (specific duties fall within this range except for the Full Tariff in the Irish Republic which is higher). However, high though they are these tariffs are not generally higher than those charged on other canned fruits and may indeed be lower — eg in the EEC where most canned fruits imported from third countries are subject to duties in the range 21% to 24%. The duties charged on canned grapefruit are in most cases considerably higher than those charged on fresh grapefruit; thus for example the EEC tariff on fresh grapefruit from third countries will be 6% ad valorem in 1972, and the specific duties on fresh fruit imported into the USA and Canada approximate to a 10 to 15% ad valorem rate of duty;

iii. it will of course be noted that Commonwealth countries enjoy a tariff advantage on the Canadian market and, conversely, countries associated with the EEC enjoy an advantage in trade with the EEC;



- iv. the various taxes of the individual EEC countries are quite complex and vary between member countries. Most are either applicable to all goods whether imported or not, or there is an equivalent tax on domestic produce. They have the effect of raising retail prices but are not discriminatory within certain classes of foodstuffs, ie all canned fruits would be similarly treated.

## PROSPECTS

Prospects in the UK and the rest of the world will be discussed separately. Imports of canned grapefruit into the UK currently account for some nine-tenths of total international trade. They have been rising on average by some 9% per year over the twelve years 1957 to 1968 though the seasonal fluctuations have been considerable and there is some evidence of marked increases at three yearly intervals. Whether or not this cycle is purely fortuitous is uncertain but there was a marked jump in imports in 1969 of 28% compared with the average of the previous three years and this is the year when a jump would have been anticipated if there is indeed a cycle. If the 1969 level of imports is sustained in 1970 and 1971 the trend of the previous twelve years of a slightly quickening rate of increase will be maintained yet again. Certainly past trends give reason for optimism which members of the trade also share; however they warn against undue optimism saying that canned grapefruit is a well established product whose prospects rely on "natural" growth — ie related to increases in population and earnings. However a "natural" growth rate would normally be of the order of 2 to 3%, a rate well exceeded for many years now. On the other hand some eventual levelling off must be anticipated and in this respect it is worth while looking at the history of imports (in effect a measure of total demand) of the three major canned fruits. These are peaches, pears and pineapples. The annual average imports of these fruits rounded to the nearest 1,000 tons have been:

	1955/59	1960/64	1965/69
Peaches	67,000	96,000	99,000
Pears	45,000	61,000	63,000
Pineapples	62,000	58,000	59,000

The increase in imports in the period 1965/69 over 1960/64 was marginally over 3% for peaches and pears and under 2% for pineapples — in effect consumption has levelled off except for a "natural" growth rate. The earlier position is different for each fruit and probably has little significance since supply and other factors were no doubt involved. The indication is that a point is reached when the increase in imports falls to or behind even the rate to be expected from natural increases in population and earnings. What does happen is that the consumption of "newer" products increases — eg canned grapefruit segments, fruit salad, loganberries etc have shown good growth rates in recent years. Obviously with so many imponderables it is difficult to predict the ultimate ceiling for canned grapefruit segments and the point at which the import growth curve will level off. However if the average annual rate of increase in imports of 9% which has been registered latterly is sustained and if there is in fact a three year cycle as has been suggested, imports will top the 50,000 ton mark in the late 1970's. It is probable that this will be somewhere near the ceiling and that imports will level out as, even with a continued switch to convenience foods, it has to be remembered that grapefruit is basically a one meal per day (breakfast) food-stuff and the demand for it may never be as big as for the three fruits mentioned. It is worthwhile developing the aspect of convenience a little. The trend in the retail trade generally is towards convenience foods and this will of course operate in favour of canned grapefruit and against fresh grapefruit — it is of interest that one importer of fresh grapefruit has commented that customers once deflected from fresh to canned fruit are difficult to wean back to the former, and he thought that the supply problems experienced with fresh grapefruit in 1969 may have given a boost to the canned fruit trade. Another aspect of convenience foods is that the catering industry is turning more



and more to them; this is due to the high cost of the labour required for preparation of fresh produce (an aspect exacerbated by the Selective Employment Tax in the late 1960's) and the difficulty of obtaining labour. Another point is that not only are caterers using more convenience foods but there appears to be a trend towards their buying single portion packs (eg 8 oz tins of canned grapefruit) rather than multi-portion packs (eg A10 cans) despite the higher unit cost of the contents of the former. Importers in the UK are alive to this development and will ensure that their suppliers are kept abreast of developments.

Most importers in the UK seem to be quite receptive to the idea of new supplies. A new supplier would probably find it advantageous to market, initially at least, under an established buyer's label — indeed, in view of the overall trend towards buyers' (particularly retailers') labels, it might never prove profitable to market an "own" label product. The advantages would, on the one hand, be reduced promotional expenses and, on the other, readily accessible marketing and even technical "know how". For example a good importer would advise the supplier as regards quality, can size requirements and future market assessments; he may contract to buy the whole of a cannery's production and he may provide advice, and even funds, to help set up, improve or enlarge the cannery; the importer will also ensure that the supplier labels his canned product correctly. Importers were unable to give much guidance as to the quantities which would be acceptable from a new supplier in the initial years. As they point out many factors are concerned in determining the volume of produce which a new supplier could market eg raw fruit supplies, investment capital available etc etc, and probably samples only would be acceptable in the first year; however one importer thought that first commercial quantities from as little as 2,000 to 3,000 cases (40 to 60 tons) to as much as ten times this amount could be handled.

The prospects of increased imports by countries other than the UK are even more difficult to predict than the prospects in the UK. An analysis of the available trade data has shown little evidence of a strong upward trend in demand in any country, except possibly the USA who will be dealt with last of all. Of the others Canada is the biggest market but even so it is small compared with the UK's (approximately 1/30) and the next biggest are the Irish Republic (approximately 1/60 of the size of the UK's), the Netherlands (1/100) and Germany (1/230). Apart from the lack of strong upward trends, the high tariff barriers and different breakfast eating habits in most of these countries also suggest that growth prospects are poor. The position as regards the USA is rather different; she is the world's largest producer and consumer of grapefruit segments but in 1968 and 1969 she imported substantial quantities of canned grapefruit from Israel, despite a tariff of 35% ad valorem. She became a net importer for the first time in these two years. It would appear, on the rather slim evidence of only two year's trade data, that new market prospects exist here; however confirmation of this lies in the future and present imports still represent only about 3% of total consumption. This new development is attributed to the disproportionate increase in production costs which has occurred in the USA compared with elsewhere.

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# APPENDIX 1

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Quality Standards for Israeli, South African and US Canned Grapefruit Segments

- i. Extracts from a translation of: Israel Standards for Canned Grapefruit Segments, preserved by a Heat Process
- ii. Standards for South African Canned Grapefruit Segments
- iii. A Summary of the Salient Points of Proposals for US Standards for Canned Grapefruit.

APPENDIX 1(i)

EXTRACTS FROM A TRANSLATION OF:

ISRAEL STANDARD FOR CANNED GRAPEFRUIT SEGMENTS, PRESERVED BY A HEAT PROCESS

PART A – GENERAL

101. *Scope*

This standard applies to grapefruit segments in sugar solution preserved by heat treatment.

102. *Grading of the Product*

The canned grapefruit segments shall be classified in accordance with the following table:

Principle of Classification		Type
102.1	Wholeness of fruit	1.1 whole segments
		1.2 broken segments
102.2	Concentration of syrup	2.1 in light syrup
		2.2 in heavy syrup
		2.3 in extra heavy syrup

104. *Preparation of Fruit*

The fruit shall be peeled, the segments freed from membrane and the seeds removed.

105. *The Syrup*

The syrup shall be prepared by dissolving white sugar in water, or in grapefruit juice, or in a mixture of grapefruit juice and water. Glucose syrup may be added in an amount not exceeding 20% of the total sugars, Lemon juice or citric acid may also be added.

106. *Additives*

The addition of edible calcium salts is permitted.

109. *Marking*

. . . . . additions and exceptions (Note: to general standards for canned fruit and vegetables).

109.1 The name of the product shall be “Canned grapefruit segments”; if produced from pink grapefruit, the words “Pink meat variety” shall be added.

109.2 The containers shall *not* bear a mark indicating a superior quality (such as “Class A” or “Fancy” . . . . .).

109.3 The words “in Heavy Syrup” or “in Extra Heavy Syrup” may be added on the container (see clause 203) . . . . If the product is packed in Light Syrup, this must be indicated on the container . . . . .

109.4 Canned broken segments shall be designated with the words “Broken Segments”.

111. *Sampling*

. . . . . the size of the sample shall be as for a lot of 8001 containers, even if the quantity submitted for test is smaller than such a lot.

PART B – REQUIREMENTS

202. *Taste, Colour and Odour*

The taste, colour and odour of the product shall be characteristic of those of canned grapefruit segments preserved by heat treatment, without any extraneous odour or flavour. Pink meat variety segments shall not be packed in admixture with the usual commercial variety.

203. *Refractometric Value*

. . . . . the refractometric value (expressed in degrees Brix) of the product shall be . . . . . :



Type of product in accordance with Clause 102	Refractrometric value	
	In the sample	In the specimen
2.1 In light syrup	From 16 <sup>o</sup> to 18 <sup>o</sup> Brix	15 <sup>o</sup> min
*2.2 In heavy syrup	From 18 <sup>o</sup> to 20 <sup>o</sup> Brix	17 <sup>o</sup> min
2.3 In extra heavy syrup	Above 20 <sup>o</sup>	19 <sup>o</sup> min

\* Certain exceptions are permitted for segments canned in heavy syrup.

## 204. Acidity

..... the acidity of the product, expressed in per cent weight of anhydrous citric acid, shall be within the range 0.7% - 1.4%.

## 207. Physical Requirements

The requirements in respect of canned grapefruit whole segments are:

Item	Property	Requirements for containers of nominal capacity	
		Not over 100 ml	Over 1,000 ml
207.1	Drained Weight in g:*	Not less than 53	Not less than 52
	Average for Sample	Not less than 53	Not less than 52
	Requirement for specimen	Not less than 51	Not less than 50
207.2	Whole segments (in percentage by weight of drained weight)	78% min	
207.3	Defects	Practically free	
207.4	Texture	Good	
207.5	Colour	Good	

The requirements ....., except the requirements in Clause 207.2, shall apply also to canned grapefruit – broken segments.

\* The drained weight of the fruit is calculated as gm per 98.5 ml (instead of gm per 100 ml) in order to take into consideration the permitted tolerance in the nominal capacity of the container.

304. *Determination of Percentage of Whole Segments*

..... Consider as a whole segment, one whose length is at least 75% of the original length of the segment. A segment fractured in one place only, but which does not tend to disintegrate may be considered as a whole segment, but parts of a segment, held together by slivers or membrane alone, shall not be considered as a whole segment.

305. *Test for Texture, Colour and Defects*

..... define the texture as “Good” if the fruit is sufficiently firm and not inclined to disintegrate.

..... define the Colour as “Good” if it is almost uniform, slightly dark but not brown.

..... Define as “free of defects” if the defects do not detract from the quality of the fruit in respect of its appearance and edibility, provided that in each 560 g of the product there shall be found not more than two developed seeds of length exceeding 9 mm, and ..... that the area of the fruit covered with albedo or tough membrane does not exceed the following limits:-

- in whole grapefruit segments — 16 sq cm in each 560 g of the produce in the specimen;
- in broken grapefruit segments — 49 sq cm in each 560 g of the product in the specimen;
- of the product in all the specimens in the sample — 25 sq cm in each 560 g.

*Appendix (a Summary – not direct extracts)*

A sample may be evaluated in the basis of scores for various features, the scores for all the specimens in the sample being taken into account.

The *Drained Weight* assessment scores a maximum of 25 points for a weight of 58 gm, falling to 18 points for a weight of 50 gm.

The *Percentage of whole segments* assessment also scores a maximum of 25 points (for 96% whole segments), falling to 19 points (78% whole segments).

The *Texture* and *Colour* assessments can earn respectively 13 and 12 points maximum.

The *Freedom from Defects* assessment carries a maximum point score of 25.

**Note**

1. The above are extracts or Summaries only, certain clauses, or parts of clauses being omitted as they refer to other general standards for canned fruit and vegetables, or in the interests of brevity.

Source: S.1 112 of November 1967 The Standards Institution of Israel, University Street, Ramat Aviv, Tel Aviv.



## STANDARDS FOR SOUTH AFRICAN CANNED GRAPEFRUIT SEGMENTS

1. There shall be three grades of canned grapefruit segments, namely Fancy Grade, Choice Grade and Standard Grade.
2. The General specifications for all three grades shall be as follows:-
  - a. Only sound, mature grapefruit shall be used for preparing grapefruit segments which shall be canned only as separate peeled portions with the carpellary membranes removed.
  - b. All grapefruit segments shall be practically free from developed seeds.
  - c. Only grapefruit segments derived from grapefruit of similar varietal characteristics shall be packed in the same container.
  - d. The segments shall be reasonably uniform in size and of normal shape.
  - e. Canned grapefruit shall be free from off-flavours due to over-processing and from excessive rag and similar defects.
3. The specifications for the various grades of grapefruit segments shall be as follows:-

	<i>Fancy Grade</i>	<i>Choice Grade</i>	<i>Standard Grade</i>
a. Minimum drained weight	15	15	15
b. Minimum average ingoing weight	19½	19½	19½
c. Minimum ingoing weight	19	19	19
d. Minimum ° Brix	20	18	18
e. Defects	<p><i>Fancy Grade</i> — Not less than 80 per cent of the drained weight shall consist of whole grapefruit segments.</p> <p><i>Choice Grade</i> — Not less than 60% of the drained weight shall consist of whole grapefruit segments;</p> <p><i>Standard Grade</i> — Not less than 40% of the drained weight shall consist of whole grapefruit segments.</p> <p>Provided that in the case of all three grades a segment shall be deemed to be whole if it has retained at least 75% of its original shape.</p>		
f. Colour:-	<p><i>Fancy Grade</i> — The units in any container shall be of a very good and uniform colour.</p> <p><i>Standard Grade</i> — The units in any container shall be of a reasonable colour throughout.</p>		

Source: Republic of South Africa Government Gazette Notice No. R 1516 of 1 October 1965.

A SUMMARY OF THE SALIENT POINTS OF PROPOSALS FOR US STANDARDS  
FOR CANNED GRAPEFRUIT

CANNED GRAPEFRUIT: IDENTITY; LABEL STATEMENT OF OPTIONAL  
INGREDIENTS

- a. Canned grapefruit is the food prepared from one of the optional grapefruit ingredients (see para b) and one of the optional packing media (see para c). The food may also contain one or more of:
1. Spices
  2. Flavouring, other than artificial flavouring
  3. Lemon juice
  4. Citric acid
  5. Calcium chloride or calcium lactate or a mixture of the two to firm the sections, but in no case may the calcium in the salt/s exceed 0.035% by weight of the finished food.
- b. The optional grapefruit ingredients are prepared from sound, mature grapefruit (*Citrus paradisi*) of the white, pink or red fleshed varietal groups and may be whole or broken sections. The core, seeds and major portions of membranes are removed. A section is regarded as whole if it is intact or if not less than 75% of its apparent original size is intact.

The product is known as "Sections" or "Segments" if 50% or more of the drained weight of food consists of whole sections, and "broken sections" or "broken segments" if the percentage is less than 50.

- c. The optional packing media are:
1. Water
  2. Grapefruit juice
  3. Slightly sweetened water
  4. Syrup
  5. Slightly sweetened grapefruit juice
  6. Grapefruit juice syrup

"Water" means any mixture of water and grapefruit juice and "grapefruit juice" the juice to which no water has been added.

The permitted sweeteners are sugar, invert sugar syrup, dextrose, corn syrup, dried corn syrup, glucose syrup, or dried glucose syrup. If any invert sugar syrup, corn syrup or glucose syrup (other than dried corn and glucose syrups) are used together with grapefruit juice then the packing medium is considered to be water.

The densities of the packing media 3 and 5 above will be °Brix 12 to 16 and for the media 4 and 6 °Brix 16 or more. Measurement is made in a Brix hydrometer 15 days or more after canning.

- d. This paragraph deals in considerable detail with actual labelling requirements.



*Canned grapefruit, quality label statement of sub-standard quality*

- a. The standard of quality for canned grapefruit is:
  - 1. The food is free from extraneous material such as leaves, portions of leaves and pieces of peel.
  - 2. Each 20 ounces of the finished food contains not more than:
    - i. An aggregate area of 3 square inches of tough membrane or albedo on the units;
    - ii. Twelve seeds including not more than three large seeds. A seed whether or not fully developed, is considered a seed when any portion thereof measures more than three-sixteenths inch in any dimension. A seed is considered a large seed when it measures more than three-eighths inch in any dimension.
  - 3. Not more than 15% by weight of the drained contents may be blemished units. Blemishes may be due to lye peeling, discolouration or other visible injury.
- b. This paragraph deals with the information which has to appear on the can label for sub-standard quality produce.

*Canned grapefruit: fill of container; label statement of sub-standard fill*

- a. The standard of fill of container for canned grapefruit is a fill such that:
  - 1. The grapefruit and packing medium will occupy not less than 90% of the total capacity of the container.
  - 2. The drained weight will be not less than 53% of the water capacity of the container.
- b. This paragraph describes the method to be used in determining drained weights.
- c. This paragraph deals with the information which has to appear on the label for produce whose fill is sub-standard.

**Source:** *Federal Register* 1969, 34, No. 225, 18598-9





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## APPENDIX 2

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### FIRMS TRADING IN CANNED GRAPEFRUIT SEGMENTS

Note: The following list gives the names of some of the firms which are known to TPI to be trading in this commodity, but the list should not be regarded as exhaustive. Inclusion in the list does not imply that TPI has any knowledge of the financial standing of the firms.

Biddle Sawyer & Co Ltd  
Plantation House  
Mincing Lane  
London EC3

Fro-Lon Ltd  
Fro-Lon House  
Station Way  
London SE15

MacPherson Train & Co Ltd  
69-85 Old Street  
London EC1

Peabody Foods Ltd  
16 Eastcheap  
London EC3

Petty Wood & Co Ltd  
12 Eastcheap  
London EC3

Brian Smith and Sims Ltd  
Winchester Square  
London SE1

There are two trade associations concerned with the import/wholesale trade in canned fruits:

National Committee of Canned Goods Importers, Brokers and Agents

National Committee of Importers and Distributors of Canned Fish, Fruit and Vegetables.

Both are at 66 Cannon Street, London EC4 and the Secretary of both is Mr H F Hoare.









